**What is**[**cloud computing**](https://en.wikipedia.org/wiki/Cloud_computing)**?**

In the simplest terms, cloud computing means storing and accessing data and programs over the internet instead of your computer’s hard drive

## What are the benefits of cloud computing

* Powerful server capabilities.
* Data backup and storage of data
* Incremented productivity.
* Very cost effective and time saving.

### What are the different layers in cloud computing

## cloud service models

**Infrastructure as a service (IaaS):**It provides cloud infrastructure in terms of hardware as like memory, processor, speed etc.

**Platform as a service (PaaS):**It provides cloud application platform for the developer.

**Software as a service (SaaS):**:It provides the cloud applications to users directly without installing anything on the system. These applications remains on cloud.

**Explain different models for deployment in cloud computing?**

The different deployment models in cloud computing are

* Private Cloud
* Public Cloud
* Community Cloud
* Hybrid Cloud

### What do you mean by software as a service?

Software As a Service (SaaS) is an important layer of cloud computing. It provides cloud applications like Google is doing. It facilitate users to save their document on the cloud and create as well.

### What is the platform as a service?

It is also a layer in cloud architecture. This model is built on the infrastructure model and provide resources like computers, storage and network. It is responsible to provide complete virtualization of the infrastructure layer, make it look like a single server and invisible for outside world.

### What is private cloud?

Private clouds are used to keep the strategic operations and other reasons secure. It is a complete platform which is fully functional and can be owned, operated and restricted to only an organization or an industry. Now a day, most of the organizations have moved to private clouds due to security concerns. Virtual private cloud is being used that operate by a hosting company.

### What is public cloud?

The public clouds are open to the people for use and deployment. For example: Google and Amazon etc. The public clouds focus on a few layers like cloud application, infrastructure providing and providing platform markets.

What are Hybrid clouds?

Hybrid clouds are the combination of public clouds and private clouds. It is preferred over both the clouds because it applies most robust approach to implement cloud architecture. It includes the functionalities and features of both the worlds. It allows organizations to create their own cloud and allow them to give the control over to someone else as well.

### What are some issues with Cloud Computing

## **Security Issues**

## **Performance and Quality of Service (QoS) Related Issues**

## **Data Management Issues**

### System integrators in cloud computing.

System integrator provides a strategy of a complicated process used to design a cloud platform

### Give some example of large cloud provider and databases?

Google bigtable

Amazon simpleDB

Cloud based SQL

### What is the difference between cloud and traditional datacenters?

The cost of the traditional datacenter is higher than cloud because in traditional databases, there is overheating problems and some software and hardware issue.

### What are the advantages of cloud services

**Cost saving**

**Scalable**

**Time saving:**

### which services are provided by Window azure operating system?

There are three core services provided by Window azure operating system:

* Compute
* Storage
* Management

What is Virtualization,

**Virtualization** is a technique, which allows to share single physical instance of an application or resource among multiple organizations or tenants type of

The machine on which the virtual machine is created is known as **host machine** and **virtual machine** is referred as a **guest machine.** This virtual machine is managed by a software or firmware, which is known as **hypervisor.**

**Type 1 hypervisor** executes on bare system.:-  RTS Hypervisor, Oracle VM **type1 hypervisor** does not have any host operating system b

Types of Hardware Virtualization

Here are the three types of hardware virtualization:

* Full Virtualization:- Guest software does not require any modification to run.
* Paravirtualization:- In **Paravirtualization,** the hardware is not simulated. The guest software run their own isolated domains.

## Grid Computing

## It a group of computer which are connect each other to perform large task

## Utility Computing

Utility computing is based on **Pay-per-Use model.** It offers computational resources on demand as a metered service

### Hypervisor

**Hypervisor** is a **firmware** or **low-level program** that acts as a Virtual Machine Manager. It allows to share the single physical instance of cloud resources between several tenants.

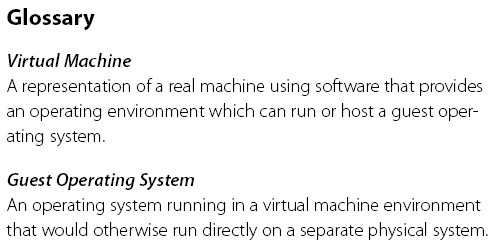
Virtualization Software:

VMware, QEMU, KVM, XEN, Oracle Virtual Box

between type-1 and type-2 hypervisor

**Applications of virtualization softwar**

Virtualization software allows multiple operating systems and applications to run on the same server at the same time, , lowers costs and increases efficiency of a company It’s a fundamental technology that powers cloud computing



The Virtualization layer is the middleware between underlying hardware and virtual machines represented in the system, also known as *virtual machine monitor*

Virtualization level:-

*(Instruction Set Architecture*

*Hardware*

*Operating System*

*Library Support*

*User-Application*

CPU Virtualization Memory Virtualization I/O Virtualization

Multi-Core Virtualization

What is live migration :- step

Memory Migration

File Migration

Network Migration